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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,582	09/25/2003	Clifton Harold Bromley	03SW169 / ALBRP314US	7480
7590 Susan M. Donahue Rockwell Automation, 704-P, IP Department 1201 South 2nd Street Milwaukee, WI 53204			EXAMINER KENNEDY, ADRIAN L	
			ART UNIT 2129	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/670,582

Applicant(s)

BROMLEY ET AL.

Examiner

ADRIAN L. KENNEDY

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-40 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Examiner's Detailed Office Action

1. This Office Action is responsive to **Request for Continued Examination** filed **July 31, 2008**.
2. **Claims 1-40** will be examined.

Claim Rejections - 35 USC § 112

3. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "multi-dimensional software objects" in line 2. There is insufficient antecedent basis for this limitation in the claim. This is due to the removal of the aforementioned subject matter from independent claim 1.

Claims 9, 10 and 11 inherit the deficiencies of claim 8.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The examiner has found that the claimed inventions of independent claims 1, 18, 24, 29, 33, and 35-40 while directed to systems and methods are directed to software system and methods that are neither 1) explicitly tied to a statutory class and

2) don't produce a "useful, concrete and tangible result" (with the exception of 24 and 40 which recite "displaying").

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1-7, 12-23, 33-35, 37-38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff et al. (USPubN 2003/0120714, referred to as Wolff).

Regarding claim 1:

Wolff teaches teaches,

a device analyzer that determines properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data (Wolff: ¶ 0017; Examiner's Note(EN): The examiner takes the position that the applicant's claimed "device analyzer" is inherent in the invention of Wolff. This inherency is based on the fact that the determining of the appropriate data speed and resolution (i.e. properties and/or limitations) would not have been possible without some form of a "device analyzer" in the invention of Wolff. Furthermore, the examiner asserts that in teaching the function of determining "limitations and/or properties" Wolff anticipates the broadly claimed "device analyzer".);

a Human Machine Interface (HMI) generator that generates code or data for the HMI in accordance with the determined properties of the devices, and delivers the code or data to the respective devices (Wolff: ¶ 0017; EN: The examiner takes the position that that it would have been obvious to one of ordinary skill in the art at the time of invention that in transforming data from one format to another format, that the new data has to be “generated”.);

a communications component that maps data path information to data delivered to one of the devices to enable communication between the data and the HMI (Wolff: EN: The examiner takes the position that the mapping as claimed by the applicant would have been inherent in the invention of Wolff. Additionally, the examiner takes the position that it would not have been possible to provide the data to the interface without there being a path mapped to said interface.); and

a processing component that renders data based at least in part on the properties, limitations, software plug-ins of the device, or any combination thereof (Wolff: ¶ 0017; Examiner’s Note(EN): The examiner takes the position that the applicant’s claimed “processing component” is inherent in the invention of Wolff. This inherency is based on the fact that the providing of the data at the proper appropriate data speed and resolution (i.e. properties and/or limitations) would not have been possible without some form of a “processing component” that formats (i.e. “renders”) the data in the invention of Wolff. Furthermore, the examiner asserts that in teaching the function of determining “limitations and/or properties” Wolff anticipates the broadly claimed “processing component”).

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It would have been obvious to one of ordinary skill in the art at the time of invention that the human machine interface taught by Wolff is equivalent in function to the human machine interface claimed by the applicant.

Regarding claim 2:

Wolff teaches,

(Previously Presented) The system wherein the device analyzer further comprising a memory or a processor (Wolff: Figs 2 and 3; processing element 280 and memory 282; page 4, ¶ 0038 and 0039).

Regarding claim 3:

Wolff teaches,

(Previously Presented) The system wherein the processor utilizes artificial intelligence to render the data (Wolff: ¶ 0052).

Regarding claim 4:

Wolff teaches,

(Previously Presented) The system wherein the processor employs artificial intelligence in connection with manipulating a mapping (Wolff: ¶ 0043-0044; EN: The examiner takes the position that the applicant's claimed "manipulating" reads on the modifying of the application interface.).

Regarding claim 5:

Wolff teaches,

(Previously Presented) The system wherein the HMI generator automatically modifies the code or data associated with an existing HMI for display on a new device for which the existing HMI is not configured, the code or data is modified according to the determined properties of the new device (Wolff: ¶ 0052; EN: The examiner takes the position that it would have been obvious to one of ordinary skill at the time of invention that when converting data from one format to another that new data is generated.).

Regarding claim 6:

Wolff teaches,

(Currently Amended) The system employed in a processing environment including at least one of a personal computer, a desktop computer, a laptop computer, a personal digital assistant, a hand-held computer, a cell phone, a tablet computer (Wolff: ¶ 0017), or any combination thereof.

Regarding claim 7:

Wolff teaches,

(Currently Amended) The system wherein the device coupled to the HMI generator is least one of a display, a data store, a server, (Wolff: Fig. 2, display 250, ¶ 0033) or any combination thereof.

Regarding claim 12:

Wolff teaches,

a correlation component that associates one or more software objects with one or more physical devices (Wolff: Fig. 2, images sensor 220; ¶ 0031); and
an object generation component that builds software objects associated with data corresponding to the physical devices (Wolff: ¶ 0043),
the physical devices affecting changes to the software objects and the software objects affecting changes to the physical devices (Wolff: ¶ 0085; EN: The examiner takes the position that the applicant's claimed physical device affecting software object and vice versa reads on the two way communication taking place between sensor and controller interfaces.).

Regarding claim 13:

Wolff teaches,

(Previously Presented) The system wherein the software objects are imported from an outside source (Wolff: ¶ 0046, generic application that includes GUI objects is loaded over the communication link).

Regarding claim 14:

Wolff teaches,

(Previously Presented) The system further comprising an interface that selects data to associate with the physical devices (Wolff: Fig. 9; ¶ 0069; EN: The examiner takes the

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position that the applicant's claimed "interface" which has not been further defined, reads on the setup page taught by Wolff.).

Regarding claim 15:

Wolff teaches,

(Previously Presented) The system further comprising an interface that selects specific attributes of software objects corresponding to data associated with the physical devices (Wolff: ¶ 0065).

Regarding claim 16:

Wolff teaches,

(Currently Amended) The system wherein the processing component renders data based at least in part on a user access data level, a data type, a data state that employs the processing component in an HMI residing in a processing environment, or any combination thereof (Wolff: ¶ 0066; EN: The examiner takes the position that the applicant's claimed "processing component" which has not been further defined in the claimed invention, reads on the web browser taught by Wolff. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention at the time of invention that a web browser renders data based on the data's "data type".).

Regarding claim 17:

Wolff teaches,

(Currently Amended) The system further comprising a user-based association between displayed data and at least one of a user access level, a data type, a data state (Wolff: Fig. 8 owner window 818, ¶ 0067 discloses associating data with a particular user), or any combination thereof.

Regarding claim 18:

Wolff teaches,

a device analyzer that determines properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data (Wolff: ¶ 0017; Examiner's Note(EN): The examiner takes the position that the applicant's claimed "device analyzer" is inherent in the invention of Wolff. This inherency is based on the fact that the determining of the appropriate data speed and resolution (i.e. properties and/or limitations) would not have been possible without some form of a "device analyzer" in the invention of Wolff. Furthermore, the examiner asserts that in teaching the function of determining "limitations and/or properties" Wolff anticipates the broadly claimed "device analyzer".);

an identification component that determines if a format or a sub-format of data is known to the system (Wolff: ¶ 0052; EN: The examiner takes the position that the applicant's claimed "identification component" is inherent in the invention of Wolff. This inherency is based on the fact that the determining if a format or sub-format of data is known reads on the determining of an acceptable format as taught by Wolff. Furthermore, it would

have been obvious to one of ordinary skill that if the format is not known by the "system" that said format is not acceptable to the "system");

an artificial intelligence component that determines the format of unknown data received by a Human Machine Interface (HMI) (Wolff: ¶ 0052; EN: The examiner has found that in not further defining the applicant's claimed "artificial intelligence component" in the claimed invention, the examiner has found that the claimed "artificial intelligence component" is a subset of and therefore reads on the variety of techniques for converting the data into and acceptable format as taught by Wolff.);

a communications component that maps data path information to data delivered to one of the devices to enable communication between the data and the HMI (Wolff: EN: The examiner takes the position that the mapping as claimed by the applicant would have been inherent in the invention of Wolff. Additionally, the examiner takes the position that it would not have been possible to provide the data to the interface without there being a path mapped to said interface.); and

a processing component that renders the data in the HMI into a suitable format based at least in part on the properties, limitations, or software plug-ins of the device (Wolff: ¶ 0052 and 0078).

Regarding claim 19:

Wolff teaches,

(Previously Presented) The system wherein the artificial intelligence component locates and renders a partial data set (Wolff: ¶ 0054).

Regarding claim 20:

Wolff teaches,

(Previously Presented) The system further comprising a memory which stores previously unknown data types for comparison with future data (Wolff: ¶ 0051; EN: The examiner has found that the applicant's claimed "storing" reads on the storing of preferred formats.).

Regarding claim 21:

Wolff teaches,

(Currently Amended) The system wherein the HMI renders the data into at least one of text, audio, video, static images, interactive images (Wolff: ¶ 0078) or any combination thereof.

Regarding claim 22:

Wolff teaches,

(Previously Presented) The system wherein the processing component provides an error message when data cannot be rendered (Wolff: ¶ 0066; The examiner takes the position that it would have been obvious to one of ordinary skill in the art, that an error message is presented in a web browser when said browser is unable to render web page data, due to an inability to reach a particular web page.).

Regarding claim 23:

Wolff teaches,

(Previously Presented) The system wherein the processing component further renders data into suitable formats or sub-formats compatible with display capabilities of a device on which the data is to be presented (Wolff: ¶ 0056).

Regarding claim 33:

Wolff teaches,

determining formatting requirements (Wolff: ¶ 0052), properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data (Wolff: ¶ 0017)

formatting the data based at least in part on the properties, limitations, or software plug-ins of the devices (Wolff: ¶ 0044); and

delivering the formatted data to the respective devices (Wolff: ¶ 0017) by mapping data path information to the delivered data to enable communication between the formatted data and a Human Machine Interface (HMI) (Wolff: EN: Additionally, the examiner takes the position that it would not have been possible to provide the data to the interface without there being a path mapped to said interface.).

Regarding claim 34:

Wolff teaches,

(Previously Presented) The method further comprising reformatting data associated with an existing Human Machine Interface (HMI) for delivery to a newly detected device based at least in part on the determined formatting requirements of the newly detected device (Wolff: ¶ 0043-0044; EN: The examiner takes the position that the applicant's claimed reformatting reads on the modifying of a generic application interface into a PDA-specific interface as taught by Wolff.).

Regarding claim 35 and 38:

Wolff teaches,

receiving data from a physical device to a Human Machine Interface (HMI) (Wolff: ¶ 0017);
ascertaining formatting requirements (Wolff: ¶ 0052), properties, limitations, or software plug-ins associated with the physical device (Wolff: ¶ 0017);
comparing format of the data to data formats known to the HMI (Wolff: ¶ 0052);
determining the format of unknown data received by the HMI (Wolff: ¶ 0052);
rendering the data in the HMI into a suitable format based at least in part on the properties, limitations, or software plug-ins of the physical device (Wolff: ¶ 0052 and 0078);
and mapping data path information to the received data to enable communication between the rendered data and the HMI (Wolff: EN: The examiner takes the position that the mapping as claimed by the applicant would have been inherent in the invention of

Wolff. Additionally, the examiner takes the position that it would not have been possible to provide the data to the interface without there being a path mapped to said interface.). Regarding claim 38 the examiner asserts that in teaching the function of claim 38, the means for performing said function is inherent.

Regarding claim 37:

Wolff teaches,

means for determining properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data (Wolff: ¶ 0050 and 0052); means for formatting data based at least in part on the properties, limitations, or software plug-ins of the devices (Wolff: ¶ 0044); and means for delivering the formatted data to the respective devices (Wolff: ¶ 0050) by mapping data path information for the delivered data to the respective devices to enable communication between the data and a Human Machine Interface (HMI) (Wolff: EN: The examiner takes the position that the mapping as claimed by the applicant would have been inherent in the invention of Wolff. Additionally, the examiner takes the position that it would not have been possible to provide the data to the interface without there being a path mapped to said interface.).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(b) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 29-32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff et al. (USPubN 2003/0120714, referred to as Wolff) in view of Shteyn (USPN 6,199,136, referred to as Shteyn).

Regarding claim 29:

Wolff teaches

a Human Machine Interface (HMI) generator that formats data based at least in part on the properties, limitations, or software plug-ins of the physical devices (P 0044); and a communications component that maps data path information to the formatted data to enable communication between the formatted data for the physical device and the HMI (Wolff: EN: The examiner takes the position that the mapping as claimed by the applicant would have been inherent in the invention of Wolff. Additionally, the examiner takes the position that it would not have been possible to provide the data to the interface without there being a path mapped to said interface.).

Wolf does not teach an object generator that creates software objects.

However, Shteyn teaches

a software object generator that determines properties, limitations, or software plug-ins associated with a plurality of physical devices intended for creation of the software objects (Shteyn: col. 6, lines 14-17; col. 4, lines 5-25);

It would have been obvious to one ordinary skill in the art to combine the human machine interface of Wolff with the machine interface of Shteyn for the purpose of controlling devices using abstract representations (Shteyn: C 1, L 57-58).

Regarding claim 30:

Shteyn teaches,

(Previously Presented) The system further comprising an artificial intelligence component that recognizes a new device added to the system (Shteyn: col. 4, lines 27-50).

Regarding claim 31:

Shteyn teaches,

(Previously Presented) The system further comprising an identification component that recognizes substantially all the components coupled to the system (Shteyn: col. 4, lines 20-25).

Regarding claim 32:

Shteyn teaches,

(Previously Presented) The system further comprising a mapping component that provides connectivity to the physical devices (Shteyn: col. 3, lines 37-39).

Applicant's arguments filed on July 31, 2008 have been fully considered but are found to be non-persuasive. The unpersuasive arguments made by the Applicant are stated below:

In reference to Applicant's argument

The Office Action identified claims 36 and 39 as reciting allowable subject matter. Such allowable features have been incorporated into respective base claims to place all claims in condition for allowance.

Examiner's response:

The examiner has considered the applicant's above arguments and has found that the applicant has not included the "allowable features" into the base claims. The applicant has only included "a communications component that maps data path information to data delivered to one of the devices to enable communication between the data and the HMI" when the previously indicated as allowable claims explicitly claims 1) "mapping data path information to data delivered to the physical device to enable communication between the data and a Human Machine Interface (HMI)", 2) "determining Input/Output (I/O) and communications protocol of the physical device", 3) "formatting data in accordance with the determined properties of the devices", and 4) "creating a software object that represents the I/O interface with the physical device". Furthermore, the examiner takes the position that the applicant has only included a summation of the subject matter claimed in the allowable claim 36 and 39, and that the summation would have been inherently present.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cook et al. (USPN 6,411,292) is cited for his display of pointing indicator within two-dimensional window display in three dimensions. Karolak et al. (USPN 5,610,839) is cited for his method of communications management.

Examiner's Opinion:

The examiner has considered the applicant's arguments in light of the claimed invention. Furthermore, the examiner respectfully reminds the applicant that **“during examination, the claims must be interpreted as broadly as their terms reasonably allow”**. (MPEP 2111.01 [R-5] I)

It is the goal of the Examiner to move the applicant's claimed invention towards allowability. However, as presently claimed, the applicant's claimed invention is substantially broad and is broad enough to read on the prior art of record. The examiner respectfully request that the applicant consider what the invention is, and where the line between the prior art (cited by the examiner and/or known by the applicant) and the applicant's intended invention lay. This request is made so the examiner can help the applicant arrive at claim language that not only traverses the language taught in the presently pending and/or previously disclosed prior art, but also traverses concepts taught (or suggested) in prior art known by the examiner and/or applicant which has not been cited. Also, the examiner is more than willing to have an interview with applicant, but requests that the applicant disclose what he or she considers to be the most inventive portion of the claimed and/or disclosed invention.

- Regarding 101 the examiner takes the position that the claimed invention is a software system. Additionally, the examiner takes the position that “rendering” is only a manipulation of data and that it is not the same as “displaying”.

- Regarding the independent claim 1, the examiner asserts that while the generation of code is novel, the generation of data is not. Furthermore, should this application come to a point where it is allowable, the allowance will be only be based on the generation of code for the HMI and not on the generation of data. This statement is for informational purposes only. Additionally, the examiner is fully aware that claims 1-17 were not previously rejected. This was lack of a rejection under the prior art is due to the fact that no prior art of record taught the creation of one or more multi-dimensional software objects, and that in removing this portion the examiner is required to reject the aforementioned claims.

- Regarding the claimed mapping that has been appended to the independent claims, the examiner takes the position that mapping data path information for data delivered to devices is substantially broad in would have been inherent and known to one of ordinary skill in the art at the time of invention, while the specific limitations claimed in claim 36 would have been neither obvious nor known at the time of invention. Additionally, should the applicant maintain that that mapping of a communications between data and an interface is performed, the examiner respectfully request that the applicant provide an example of a case where a path between data and the data provided to an interface are not mapped when rendering said data. Should the applicant argue that mapping isn't inherent

between data and an interface, the examiner will rely on Karolak et al. (USPN 5,610,839, referred to as Karolak) as prior art that teaches mapping communication paths for data between devices (Karolak: C 6, L 48-60). Finally, if the applicant chose to further pursue the claiming of mapping a connection, the examiner asks whether the mapping is done manually by a human operator (which is non-obvious) or done automatically in the course of providing the data to the interface (which is obvious).

- Regarding the applicant's claimed use of "device analyzer", "HMI generators", "communication components", and "processing components", the examiner respects the applicant's ability to act as his own lexicographer, but has found that the aforementioned components are substantially broad in their claimings. The examiner has found that the claimed components while not explicitly recited in the prior as individual components, are identical in function as the functions performed in the prior art and as a result would have been obvious to one of ordinary skill in the art.

- Finally, should the applicant decide to submit any further correspondence, the examiner respectfully requests that the applicant contact the examiner to discuss in depth the line between the prior art (both cited and non-cited), the claimed invention and the invention of the applicant's disclosure.

Should the applicant choose to amend, the Examiner respectfully suggests that the applicant explicitly indicate the statutory class that the invention is tied to (using language along the lines of "a [computer implemented] system" and "a [computer implemented] method"). (The previously cited suggestions are not a recitation of

allowable subject matter, but are rather subject matter disclosed/claimed by the applicant which will help further distinguish the claimed invention from the prior art. Furthermore, any amendment will require further searching of the prior art.).

Claims 1-40 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrian L. Kennedy whose telephone number is (571) 270-1505. The examiner can normally be reached on Mon -Fri 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ALK/

/David R Vincent/
Supervisory Patent Examiner,
Art Unit 2129

